

DOCUMENT RESUME

ED 221 204

IR 010 379

AUTHOR Stafford, Robert
TITLE Australian Newspaper Index Feasibility Study.
Development of Resource Sharing Networks. Networks
Study No. 13.
INSTITUTION National Library of Australia, Canberra.
REPORT NO ISBN-0-642-99209-6
PUB DATE 80
NOTE 52p.
AVAILABLE FROM Sales and Subscriptions Unit, National Library of
Australia, Canberra, ACT 2600, Australia (\$3.75).
EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Abstracts; Computer Output Microfilm; Cooperative
Programs; Feasibility Studies; Foreign Countries;
*Indexes; *Indexing; Library Cooperation; National
Libraries; *Newspapers; Online Systems; Publishing
Industry; Subject Index Terms; Thesauri
IDENTIFIERS *Australia

ABSTRACT

This study of the need for and feasibility of creating an Australian newspaper index comprises a brief historical background; an outline of the current position regarding access to newspapers, including the international scene; an assessment of the need for an Australian newspaper index; recommendations on the breadth and depth of subject coverage required for an index and the range of primary source material to be included; reasons for the failure of previous Australian newspaper indexes; recommendations regarding the physical form of the index, the level of indexing, and the responsibility for its compilation; an estimate of production costs; and a discussion of possible means of cost recovery. A computerized index with subject coverage of specified types of news appearing in the final editions of nine Australian newspapers is suggested. A supplementary section provides the text of a 1977 proposal by Thomson Publications to initiate an Info-Key Index; a critique of this proposal; and recommendations for short-term action based on one of three options--the Thomson index, a cooperative index produced by a consortium of Australian libraries, or an index commercially produced by Bell and Howell with or without participation by Australian libraries. (ESR)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED221204

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.
- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

National Library of Australia

Development of
Resource Sharing Networks

In the framework of UNISIST (World Science Information System), NATIS (National Information Systems) and ALBIS (Australian Library Based Information System)

Networks Study No. 13

AUSTRALIAN NEWSPAPER INDEX
FEASIBILITY STUDY

Report by Robert Stafford, B.A., A.L.A.
Prepared for the AACOBs Working Party on Bibliography

National Library of Australia
1980

"PERMISSION TO REPRODUCE THIS
MATERIAL IN MICROFICHE ONLY
HAS BEEN GRANTED BY

Sandra Duffield

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

IR010379

Stafford, Robert

Australian newspaper index feasibility study :
report / by Robert Stafford for AACOBS Working
Party on Bibliography. - Canberra : National
Library of Australia, 1980. - 46p. ; 30cm. -
(Development of resource sharing networks :
networks study ; no. 13)
ISBN 0 642 99209 6

1. Australian newspapers - Indexes.
I. National Library of Australia. II. Australian
Advisory Council on Bibliographical Services.
Working Party on Bibliography. III. Title
(Series).

079'.94

PREFACE

The key statutory functions of the National Library are to develop a national collection of library materials, to provide bibliographical and other services based upon them, and to foster national and international co-operation. The last is essential to ensure the cost-effective development of the national collection and services and is currently being discharged through the promotion of the concept of voluntary resource sharing.

Arising from its statutory responsibilities, the National Library has been recognised by the appropriate Ministers, departments and authorities as the national focal point for a range of international and national programs, including UNISIST (World Science Information System) and ALBIS (Australian Library Based Information System).

The Library aims to encourage a voluntary national information system within which state and municipal governments will continue to serve the major information needs of the general public and within which universities and research institutions, major private enterprises and Government departments and authorities will continue to serve their major information needs. For its part, the Library sponsors those services which most appropriately or economically should be provided centrally on the basis of resource sharing.

The long-felt inadequacy of newspaper indexing in Australia prompted a survey in 1979 by the Australian Advisory Council on Bibliographical Services of national needs in this field of information, and of ways in which they might be met. The National Library acknowledges the initiative that led to the commissioning of this survey, and has pleasure in publishing the completed report in its series of Networks Studies. Responsibility for statements of fact and expressions of opinion rests, of course, with the author.

G. CHANDLER

Director-General and

Executive Member of the Council

Contents

Introduction	p.1
Historical background	p.4
The present situation	p.5
The current international position	p.12
The need for an Australian newspaper index	p.14
Source material for an Australian newspaper index	p.16
Subject fields to be covered by the index	p.19
Reasons for the failure of previous Australian newspaper indexes	p.23
Physical form of the index	p.23
Level of indexing	p.24
Responsibility for compiling the index	p.26
The cost of a cooperative newspaper index	p.28
Cost recovery	p.32
Supplementary Recommendations on a commercially produced index	p.33
Short term action recommended to AACOBS	p.34
Appendix A	p.37

AUSTRALIAN NEWSPAPER INDEX FEASIBILITY STUDY

Introduction

In March 1979 I was engaged by the Working Party on Bibliography of the Australian Advisory Council on Bibliographical Services to carry out a feasibility study on Australian newspaper indexing, under the supervision of D.H. Borchardt, Chief Librarian at La Trobe University and Convenor of the Working Party. The study was funded for three months by AACOBS and additional funds were made available by La Trobe University Library.

The terms of reference were given as follows:

- (1) To examine recent and current newspaper indexes in Australia and to attempt an analysis of the reasons why few such indexes have been successful as business propositions or why some of them ceased or are abandoned;
- (2) To establish desirable criteria for an Australian Newspaper Index including
 - (a) the desirability or otherwise of including more than one national newspaper in such an index, and nominating the most appropriate edition of such newspapers,
 - (b) recommendations for the subject fields that should be covered by such an index,
 - (c) the level and depth of indexing that should be attained bearing in mind the various formats in which such an index could be produced (paper copy - COM - on line computer). [Detailed recommendations on production standards (Physical), computer software, etc. are NOT required]
 - (d) the most desirable frequency of issuing such an index, particularly in relation to (c) above.
- (3) To suggest broad outlines for the method of compilation of such an index, including the possibilities of having it done by
 - (a) a commercial contractor,
 - (b) the National Library of Australia as part of its national bibliographic obligations,
 - (c) a formal cooperative effort by a number of appropriate institutions,or any combination of these possibilities or some other possibility;
- (4) To attempt an estimate of the costs of such an index and to suggest a suitable method of cost-recovery should that be desirable.

My objectives may be summarized as an attempt to survey available access to the information contained in Australian newspapers, an assessment of its adequacy in meeting the needs of users and potential users, and the proposal of a means whereby identified needs can best be met. Both the

nature of the demand for access to newspapers and the characteristics of newspapers as an information source give rise to problems in developing a satisfactory index which are peculiar to the medium. The scope of the report therefore has been somewhat broadened from that given in the terms of reference, and the form that it takes includes the following elements:

- a brief history of previous interest shown in creating an Australian newspaper index;
- an outline of the current position regarding access to newspapers;
- an assessment of the need for improving access;
- recommendations on the breadth and depth of subject coverage required to meet this need;
- recommendations on the range of primary source material required to be indexed;
- reasons for the failure of previous Australian newspaper indexes;
- recommendations on how the index should be compiled;
- recommendations on who should be responsible for compilation;
- an estimate of costs involved and a discussion of possible means of cost recovery.

In my recommendations I have striven to tailor the proposals to what seems likely to fit the facts of economic life. This approach seemed more suitable than prescribing criteria which, although they may be more effective in meeting needs, would make such a demand upon resources at the outset, that they would be unlikely to bear fruit. The report therefore tries to show what is involved in meeting some of the identified needs and to propose a system which may be expanded to meet all.

In carrying out this study I have employed the following methods:

(1) Survey of relevant literature.

As far as I could ascertain not a great deal has been published either in Australia or overseas which was of relevance to this study. Some descriptions of existing systems do exist, but quite often they are written by those involved in providing the service and do not attempt to critically appraise it. Little has been published recently concerning the actual production of newspaper indexes and that which has, has tended to be concerned with the smaller services which are designed in the main for in-house purposes. A search of *ERIC* for the years 1976-1978 revealed only two items of interest, for example. This dearth of critical literature on news indexes contrasts strangely with the proliferation of indexes themselves particularly in North America. The commercial nature of the majority of these enterprises may in some way seem to explain this phenomenon.

I was able to consult a number of unpublished reports and surveys carried out on the topic and these proved to be more useful than most of the published material I managed to locate. They included a market survey commissioned by the National Library, reports of previous AACOBs discussions relevant to the project, an overall survey of Australian newspaper indexing submitted in fulfilment of the academic requirements for a first degree, a report on a functioning American index and a detailed proposal for the establishment of an Australian index using the same system.

(ii) Examination of previous and current newspaper indexes.

I have endeavoured to appraise critically not only the existing Australian newspaper indexes but also those indexes and services that currently fulfil to some extent the need for access to Australian news information.

I have examined a number of current newspaper indexes published overseas with a view to ascertaining their policies and practices with regard to comprehensiveness of coverage, systems of subject indexing, automation of production, depth of indexing or abstracting and frequency of publication and cumulation.

(iii) Examination of newspapers.

I examined the range of Australian newspapers that might reasonably be included in any index i.e. *The age*, *The advertiser*, *The courier mail*, *The [Hobart] Mercury*, *The Sydney morning herald*, *The west Australian*, *The Canberra times*, *The Australian* and the *Australian financial review*. Through random sampling an attempt was made to assess the breadth of news coverage of certain major papers. An assessment was also made of the degree of overlap in news reporting by all the newspapers examined both in general and in particular subject areas. The analysis of editorial content was designed to establish not only what newspapers should be indexed but also to assist in formulating criteria for selecting and excluding articles.

(iv) Visits to and correspondence with relevant institutions and organizations.

I visited a range of institutions with an interest in newspaper indexing. These included the Australian National Library, the Commonwealth Parliamentary Library, the Parliamentary Library of New South Wales, the Mitchell Library, the State Library of Victoria, the libraries of *The age* and *The herald/sun*. Through these visits I sought to ascertain the current practices of these institutions in handling news information as well as discussing, with those involved, the problems pertaining to newspaper indexing and the various means of overcoming them in any projected index. I am very grateful to the staff of these libraries for the assistance they rendered me in preparing this report. I also received valuable assistance from Thomson Publications (Australia) Pty., ACI Computer Services and the Western Australian Institute of Technology.

The correspondence which I attempted with the publishers of leading American newspaper indexes proved less than completely successful, although useful replies were received from the publishers of *The New York times index* and *The Californian news index* from Newsbank Inc., from Bell and Howell and from Micromedia Ltd. publishers of *Canadian newspaper index*.

Very special thanks are due to Mr Keith Sandford for his generosity in making available to me a copy of his Bachelor of Social Science thesis "The possibility of the publication of an index to an Australian newspaper" which was an invaluable source of background information. My thanks are also due to Mr D.H. Borchardt for his continuing support of my efforts in preparing this report. The first draft of this study was submitted to the Working Party on Bibliography in September 1979 and then passed on to the Standing Committee of AACOBS in November 1979. Members of both Committees and the Staff of the National Library of Australia have kindly assisted by offering detailed constructive criticisms for which I am deeply grateful.

Historical background to this study

When the *Index to the Sydney morning herald and the Sydney rail* ceased publication in 1961 the fact went unremarked by the *Australian library journal* and indeed by any journal indexed by *APALIS* at that time. While this might be taken to indicate a certain indifference among Australian librarians at the time various efforts were being made within the decade to rectify the position. In 1968 following the passing of a resolution (SC/12/69) by the Standing Committee of AACOBS an attempt was made to gauge the interest of Australian libraries in the provision of a newspaper index. The results of this survey were made known to the twenty first meeting of the Standing Committee and indicated that no more than fifteen local public libraries were willing to pay more than \$40 annually for an index. Even with subscriptions from the National Library, the state, parliamentary, university and the larger college libraries taken for granted, it was concluded that the index would require four hundred further subscribers to ensure its viability in economic terms. Another group of potential users which was willing to pay up to \$200 per annum was noted to number around forty and was also judged to be incapable of supporting a project the cost of which was then estimated at \$17,500 per annum. Respondents to the survey showed a mixed response to the question of including international news in any proposed index as well as to the choice of newspaper or newspapers to be indexed.

In early 1970 *The Australian* offered to produce a quarterly index with an annual cumulation similar to the defunct Sydney morning herald index. The proposed arrangement appears to have involved *The Australian* assuming responsibility for type-setting, proofing, printing and sale of the index which would be compiled by somebody designated by AACOBS. The proposal was rejected by AACOBS on the grounds that the payment required by the newspaper, \$6,500 per annum, was too high.

Later in that year a report was submitted to the fortieth meeting of the AACOBS Standing Committee on the feasibility of the National Library undertaking the publication of an Australian newspaper index. In this report it was estimated that staff required by the National Library, to prepare a comprehensive index including abstracts to either *The Sydney morning herald* or to *The Australian*, would include three qualified librarians, two typists and one clerk. Given the printing costs, the likely return on sales and the staff shortages in the National Library, the report concluded that it was not possible for that institution to produce an index. It is worth noting that this report also suggested that a newspaper index should best be produced by a newspaper (AACOBS/SD/1971/33 Appendix A). At the same time, the Standing Committee was informed of a study being carried out by John Fairfax & Sons on the possibility of reviving the *Index to the Sydney morning herald*. The meeting agreed to advise Fairfax on some aspects of the previous index which could be improved upon; these concerned breadth and consistency of subject headings (AACOBS/SD/1971/39).

In 1973 the National Library commissioned PA Management Consultants Pty. Ltd. to carry out a market survey aimed at measuring the demand for a newspaper index in Australia. The views were sought of some 331 different respondents, which it was estimated, represented a fair sample of a total potential users population of 2,450 institutions. The institutions surveyed in this sample included government departments, government bodies and agencies, local government bodies, press cutting services, advertising agencies, public relations consultants, management consultants, major private companies, major educational institutions, public and special libraries, newspapers, television and radio stations, organizations concerned with access to information,

political parties, press secretaries, journalists, embassies, chambers of commerce and professional bodies. The report on the study, which was confined to Sydney, Melbourne and Canberra, recommended that the price of an annual subscription be set between \$150 to \$210 per annum which, it was indicated, would lead to subscriptions being placed by twenty five per cent of the original estimated potential user population. Respondents indicated a significant preference of an index covering *The Australian*, *The Australian financial review*, *The age* and *The Sydney morning herald*. A substantial majority of those sampled, stated that their interest in subscribing to an index was conditional on a minimum fortnightly frequency of publication and on a delay in publication of no more than one week after the period covered. The survey also indicated the categories of news considered as essential for inclusion by different percentages of respondents. They are as follows; Australian public affairs i.e. politics and government (70%), business and finance (66%), editorials (48%), overseas news and international affairs (42%), letters to the editor (34%), crime and court reporting, minor events and human interest reporting (19%), womens pages (13%) and sport (11%).

The submissions made to the National Library in the context of its feasibility study for a Australian Library Based Information System (ALBIS) included five which stressed the need for a newspaper index. These submissions, which were made by the University of Sydney Library, the Parliamentary Library of Victoria, *The age*, the Library Board of Queensland, and Technilib, were commented on favourably by the Social Sciences Advisory Committee of the National Library Council.¹

In 1977 Thomson Publications (Australia) Pty. Ltd. made a proposal for the establishment of a 'National System for information storage and retrieval particularly newspaper and news magazine clippings and air media transcriptions.' The system proposed the establishment of a co-operative consortium including Thomson Publications, the Commonwealth Parliamentary Library, John Fairfax & Sons, the Herald and Weekly Times, David Syme Ltd., News Ltd., Australian Consolidated Press, the publishers of *The advertiser*, the New South Wales Parliamentary Library, the Victorian Parliamentary Library and the Queensland Newspapers Group. Twenty two daily papers and ten weekly papers would be indexed centrally by key wording on computer tape, and clippings of 8,000 articles a week would be microfilmed and stored on automatic retrieval reader printers. The full text of material required could then be retrieved by searching the on-line index and finding a location within the microfiche data banks and mounting the fiche on a visual display unit or in printed copy as desired. A fuller description of this system is provided later in this report as the proposal for its establishment is still under consideration by potential participants.

The present situation

At present there exists only one continuing separately published index to an Australian newspaper, the *Index to the Newcastle morning herald*, which is published monthly with annual cumulations by the Newcastle Public Library. The index was first published in 1955 with two sequences; one beginning at that date and another starting in 1861. To-date, the periods 1861-1933, 1955-1977 have been covered. The indexing is done by the library staff of the newspaper itself and issues often take a long time to appear. The standard of the index in general reflects the fact that it was initially conceived as an aid to the *Herald's* staff, as has been pointed out by W.G. McGinn². The subject headings used are so broad as to be of little use to those unfamiliar with the index. Headings such as 'Crime and alleged crime', 'Sport' and 'Queensland' abound, and there is even a heading 'Special articles',

which covers many articles without a common subject content. The breadth of headings used is compounded by a certain inconsistency in their application. In 1974, for example, articles listed under the heading 'Queensland' included the following: 'Massive search for mad killer', 'Whitlam unflappable when crowd jeers' and 'Hitch-hiking link feared over two missing girls' but not 'Massive floodwave ravages Brisbane' which was listed only under 'Floods'. The heading 'Strikes and disputes' used in 1975 did not list articles on the major power strikes in January of that year. These could only have been found under the heading 'N.S.W. State Electricity Commission'. Material listed under the heading 'Sport' in the 1974 volume did not include an article on Australia winning a gold medal at the Commonwealth Games or any cross reference to the 'Commonwealth Games' which merited a heading of its own. There is in fact no adequate system of cross-references. The index is selective; foreign news reports are not included except when they happen to be 'Special articles'. While the selection policy of the index is quite reasonably biased towards the Newcastle area primarily and Australia secondarily, some important material seems to have been excluded. Nonetheless, whatever criticisms may be made of this index, its continual publication ensures that some published access exists to newspaper articles in Australia and although its value is primarily regional the national coverage of both the newspaper and the index is superior to that of the average regional paper.

While *The Newcastle morning herald* is the only Australian newspaper currently with its own index, limited access does exist to quite a range of newspapers. *The Australian financial review* is indexed selectively by the American Business Journal *F & S index international*.³ The degree of comprehensiveness of indexing can be judged by the fact that over 1200 articles from *The Australian financial review* were listed in the February-April 1978 cumulation, indicating that on average some 20 articles per issue were abstracted. This *Index* is published monthly with quarterly and annual cumulations, and source material is listed in three sequences; by industry, by country and by company. Within the listings by country, fairly broad 'Product and Functional' headings are used such as 'Mining', 'Agriculture', 'Construction', 'Government'. Some sub-headings are used, for example, 'Manufacturing' is subdivided by industry and the heading 'Trade and services' has such sub-headings as 'Medical' and 'Trade Unions'. Unorthodox as the subject headings used may be judged to be, given the relatively small Australian input, they are adequate to the task of retrieving significant material on business, manufacturing, commerce, economics and related topics appearing in *The Australian financial review*. Major political reports may also be traced with this *Index* although it is worth noting that the *Review* itself does not include a great amount of this material. The Australian content of this index comes predominantly from the one newspaper and although Australian material appearing in a range of American and British journals and newspaper is included, no other Australian newspaper is indexed. The index has now become available on-line through the Dialog service in Australia.

Limited access to Australian newspapers is provided by the *Australian public affairs information service (APAFIS)* which appears in 11 monthly issues per annum with an annual cumulation. Although no newspapers are included in the list of periodicals comprehensively indexed, it is estimated that up to ten per cent of the total number of articles indexed are from the national weekly newspapers or from the major capital city dailies, which would amount to not many more than 1000 articles per annum. Given that the policy of *APAFIS* is to index only those newspaper articles which exceed a half page in length it is reasonable to assume that the input from daily newspapers is not considerable. The other criteria used in selecting newspaper material for indexing are derived from the general criteria in use, in what aims to be an index to Australian social science and humanities. Thus while foreign news in general

is not indexed, Australian comment on international events is included. The standard of indexing is high particularly since 1978 and production of APAIS is now partially automated. A thesaurus of over 1600 headings is being used and this combined with an improved system of cross references allows for ease of retrieval of what newspaper content is included. There is on the other hand, a certain inconsistency in the extent of newspaper material included on an issue by issue basis. This is due no doubt to the exigencies placed upon APAIS staff by a combination of the growing volume of source material to be indexed and inadequate staffing. These same factors may also contribute to the present delay of at least three months before some material received is indexed.

A case for increasing the newspaper content of APAIS could be made. *British humanities index* appears to include more newspaper material. This fact, however, may be due more to differences in source material than to differences in editorial policy.

The *Index to Australian book reviews* includes book reviews from the following newspapers *The Age*, *The Advertiser*, *The Australian*, *The Canberra times*, *Nation review* and *The National times*.

In January 1979 a pilot study of newspaper indexing was initiated at the West Australian Institute of Technology which involved the selective indexing of two months issues of *The West Australian* and *The national times*. The main criterion for inclusion of material in the WAIT project was that of its relevance to Western Australia. An analysis of one weeks' input from *The west Australian* shows that 77% of articles indexed originated in that State. The selection policy employed resulted in all media programmes, social news, travel and motoring reports being excluded, and only a small proportion of sports news, business news and crime reports being included.⁴

The WAIT index is maintained on computer tape and was entered on-line on the AUSINET network using the Generalized Data Entry system devised by ACI. Four categories of information are provided in each entry: a bibliographical citation, a three to ten line abstract, narrow descriptors and broad descriptors which are called categories. No reliance was placed on an existing thesaurus of descriptors and headings were assigned by using an expanding authority file. No printed index at present exists. This experimental index and its potential for development will be discussed further below.

Another form of access to Australian news information has recently become available in Australia. In July, 1979 the first microfiche copies of sections of the *Newspaper clippings file* of the Department of Political Science, Australian National University, were made available in limited edition to a number of institutions with an interest in political and historical research. The file is currently based on clippings in the subject areas of politics and economics in the broadest sense, taken from *The age*, *The Sydney morning herald*, *The Australian*, *The Canberra times*, *The Australian financial review*, *The Hobart mercury*, *The courier mail*, *The advertiser*, *The west Australian*, *The Northern Territory news*, *The Melbourne sun*, *The Melbourne herald*, *The Illawarra mercury*, *The national times* and *Nation review*. Although there is no index to this collection of clippings, the fiche are organized very broadly by subject and also by year. The collection covers the period 1952 to 1978 although comprehensive clipping did not begin until 1960. Annual updates are planned and the fiche covering 1978 clippings have already appeared. No complete evaluation of the collection is possible as only sections of it have been available at the time of writing and the planned introduction by C.A. Hughes has not yet become available. It must be pointed out, regarding the sections which have

appeared, that many of the clippings filmed are torn and that the origin and date of individual clippings can often not be identified. As a consequence users may not be aware what subject the more succinct articles refer to. This detracts considerably from the value of the collection. It is clear that this type of tool is primarily of benefit to special research workers and its value is largely dependent on the user's familiarity both with the collection and his subject. In consequence of copyright agreements made between the publisher and the newspapers filmed, the collection is available only to institutions concerned with education and research.

In the past, indexes have been published to a range of Australian newspapers and Professor Henry Mayer has noted the majority of these as well as a substantial number of card indexes, to which there is some form of public access.⁵ Now defunct published indexes exist to the following newspapers; *The Sydney morning herald*, 1927-Sept. 1961, *The Stockship*, 1875-1877; *The Sydney herald*, 18 April 1831-30 July 1842 (this is an index to birth, death and funeral notices); *The age*, 1868-1892-99 (this is an index to editorials only); *The Australian*, 1868-1891; *The argus* 1846-1859, and 1810-June 1949; *Nation review* (to 9 July 1971, *Sunday review*; 10 July 1971-22 July 1972 as *The review*), Oct. 1970-Oct. 1972; *The advertiser*, June 1932-Dec. 1935; It is not my intention to give a critical appraisal of all of these indexes; suffice it to say that the earlier indexes in particular show a great lack of subject specificity and that form often took precedence over subject in creating headings. The quality of indexing is illustrative both of the standards of skill prevalent at the time, and of the primary purpose of these indexes, which was often to serve the newspaper staff. Inconsistencies abound in the indexing practices employed. In the index published by *The argus*, for example, all the Christian religious denominations are entered under 'Churches, Anglican; Churches, Methodist' etc. No reference is given to the proper titles nor indeed from the heading 'Religion'. The *Index to the Sydney morning herald* prior to its cessation in 1961 had improved in standard to the stage where it was certainly better than all of its predecessors. A guide to the *Index*, which indicated material not indexed and gave general advice on headings used, was included. Yet even this *Index* had form entries like 'Institutions and societies' and 'Leaders and special articles', headings which would be sought by journalists and reporters, but which would not be expected by others.

Although access through published indexes to Australian newspapers is inadequate, the determined seeker after news information may by a variety of other means at least obviate the need for page by page search of the source material. The alternate tools available fall into two categories; card indexes and clippings files. I have already mentioned the list of indexes provided by Mayer which includes sixteen samples of the former, four of which were current in 1973.⁶ Card indexes kept in newspaper offices were included in a list compiled by AACOBs in its 1960 survey of Australian bibliography.⁷ No guide to clippings files appears to exist.

Card indexes in various forms to one or more newspapers are maintained by a number of the state libraries. The Mitchell Library has been compiling such an index to *The Sydney morning herald* since the cessation of the printed index in 1961, although the practice was not fully regularized until 1966. The index has always been selective but the criteria used in deciding on material for inclusion have changed over the years. While this lack of consistency places some burden upon the user, the criteria which have recently been developed are of some inherent interest to the purposes of this report, in that they reflect on the research needs of users as they have been perceived by the reference staff in the Mitchell Library. Above all, the

Mitchell Library's index is restricted to articles of Australian interest. This criterion firmly excludes all overseas news save that affecting or likely to affect Australia or prominent Australians. Material concerning events in which Australia is not directly involved may be indexed if the events in question are likely to have some future impact on the country. Consequently articles on such topics as United States beef quotas and international wheat prices may be included. However, the index is also selective with regard to Australian news: material not covered includes minor articles and news items on business, commercial, sporting, weather and human interest. Accidents, deaths and other biographical information are indexed if the persons concerned are prominent. Crimes and court proceedings are noted only insofar as they raise questions of law or of its administration. Editorials are excluded, as are those letters to the editor which do not provide significant new information. Book reviews are indexed although reviews of films and plays are not included. The headings used are closely related to the form and structure adopted in the Mitchell Library's *Dictionary catalogue of printed books*; prominent persons are indexed by name. Cross-referencing has been somewhat inadequate in the past but steps are being taken to extend it progressively. Serious consideration is now being given to publishing the index on microfiche for the years 1961-1976.

The State Library of Tasmania began the continuing compilation of a Tasmanian index in the early 1960's with some retrospective additions. The index is based upon material taken from *The Australian*, *The National times*, *Nation review*, *The Hobart Mercury*, *The Launceston examiner*, *The Saturday evening mercury*, *The Sunday examiner*, *The Advocate weekender*, *The weekly times*, *The Tasmanian mail*, *The advocate* and *Church news*, as well as from seventy other journals and government reports, and from information collected in response to reference queries. The subject scope of the index includes only material of historical, biographical, economic, social, political or scientific significance to Tasmania. All such material appearing in *The Hobart Mercury* is indexed with the exception of minor crimes, court cases and sporting events and all births, deaths, marriages, public notices and social news. Relevant material is taken from the other newspapers when it is found not to be covered, or not as fully covered, in the major capital city daily. The standard of indexing is high; direct headings are used where possible although some subdivision of headings is inevitable and adjectival headings are sometimes inverted. Cross references and scope notes are used when appropriate. A considerable number of entries are made under personal and company names.

Newspaper indexing is not carried on extensively by the State Library of Victoria. An index is kept to the La Trobe Library's press cutting file which is based on newspaper clippings containing biographical and historical information on Victoria. At present, cuttings are taken from *The age*, *The herald* (Melbourne) and the Saturday edition of *The Australian*. It must be stressed that only historical material and not material of historical interest is included. That is to say, only material which appears in historical articles is included while material on current events likely to become historic in time, is excluded. The index and the file originated in the 1930s and if it is to continue another forty years it might be substantially improved by a reconsideration and redefinition of what constitutes historical information. A biography index is also maintained on cards; this contains some 70,000 references to biographies and obituaries of Australians with particular emphasis on Victorians. Although in the past extensive biographical information was indexed in a range of early Victorian newspapers, at present only the obituaries appearing in *The age*, *The herald* and *Saturday's Australian* are indexed.

Newspaper articles relevant to Western Australia appearing in *The West Australian* are indexed selectively on cards at the J.S. Battye Library of West Australian History which is attached to the Public [State] Library of Western Australia. The index covers the period 1850-1890 as well as the years from 1949 to date and the criteria currently employed in selecting news for indexing results in ten to twenty articles per day being added to the card file. Crime and sports material is excluded except for articles on major events, although biographical material on sportsmen is included. Political and business news is also subject to strict criteria of selection. Speeches by leading Western Australian politicians are often excluded if they are deemed to contain little new information or no positive proposals. Business news, likely to be found in company annual reports, is not indexed. As well as the material based on *The West Australian* itself the sources for this index include the suburban supplements published with that paper and a number of other periodicals which carry items relevant to Western Australia.

Reference has already been made to the card indexes maintained by the libraries of newspapers and to the listing of them which was made by AACOBs in 1960.⁸ It is likely that many of the indexes shown as being current at that time are no longer being maintained. While *The Sydney morning herald* index is still continued on cards, as it has been since the demise of the printed index, most newspaper libraries place major if not total reliance on cuttings files for news information retrieval. The library of the Herald and Weekly Times Group, in Melbourne, for example, abandoned their extensive index in 1970 and now make 400-500 clippings a day from a range of Australian capital city daily newspapers and from national and international weeklies. These cuttings files are to some extent self indexing; although an authority file has yet to be developed, specific headings are used where possible and up to five copies of one article may be cut for filing. Although efforts are made to avoid duplication of news stories from different newspapers, this file strives to be comprehensive particularly with regard to Victorian and Australian news. These files have been maintained from the first decade of the twentieth century to the present, and contain a wealth of information for historians and social scientists. Clippings are filed under all personal names appearing in *The herald* and provide a valuable source of biographical information. A number of minor indexes are still maintained including, a murders index, a property index and a motoring index.

Similar clippings files either in hard copy or in microform are kept by most if not all newspaper publishers and although few files are as extensive as the example described, in terms of the range of source material, all attempt to provide access at least to material which has appeared in their own newspaper. The tendency of newspaper libraries to favour clippings files over indexes may be explained by the immediacy of their users' needs. Reporters and journalists require that information should be directly available without going through the normal intermediate retrieval processes common in reference searching. The physical nature of newspapers also militates against searching citations in the primary source. Furthermore, this imperfectly constructed retrieval system can function reasonably well given that the small number of its users are perfectly familiar with its major imperfections. The superiority of a well organized index in retrieving more fully all sought information is clearly not deemed to be of great significance in newspaper libraries. This fact says more about the nature of journalism than the quality of staffing in newspaper libraries. Although the clippings files maintained by newspapers are designed almost exclusively for internal use, quite a number of newspaper libraries allow a limited number

of outside users access to them. The demand for such access is surprisingly large. In Melbourne, for example, the libraries of the two major newspaper groups receive up to one hundred external enquiries per day between them. While newspaper librarians do not in general encourage outside users, many are prepared to assist genuine research workers, freelance journalists, employer and trade union organizations and other serious users.

The Australian financial review has sought to take advantage of the demand for access to its files through the establishment of its Australian Financial Review Information Service which is offered to subscribers at a minimum charge of \$360. Although the service is primarily centred on Australian business financial and industrial information, the sources of its information include the full clippings file of the Fairfax Sydney Newspaper Library as well as the international SVP Business Information Service. Users may telephone their queries or they may personally use the clippings files. Some extra charges are made for time spent searching by the Service's own staff. The emphasis of the Service is very much on speed and most queries are answered by photocopies from the clippings file of Fairfax's Sydney library.

A number of other institutions in Australia also maintain clippings files, including the Australian National Library (Reference Division), the various parliamentary libraries and the libraries of the more significant commercial, financial and industrial institutions. A general characteristic of these institutions is the urgency of the demands of their users. Typically, the users of these institutions also share with the users of newspaper libraries a concern with reasonably current news rather than with retrospective data. The users of the National Library's clippings files do not fit into this category and have more in common with those who exploit the previously mentioned A.N.U. clippings file. The National Library's files contain only material relevant to Australia taken from a range of major Australian newspapers. Although these files are clearly of special use in the daily tasks of the reference staff they are also directly useful to scholars; in fact the Library has prepared printed lists of subject headings applied in the clippings file which facilitate its use by others. The specificity of the headings can be judged by fact that initial listing of headings issued in 1974 numbered over three thousand and this figure has since been increased.

The Commonwealth Parliamentary Library also makes use of an extensive range of subject headings in filing its newspaper clippings. Twenty seven newspapers which include all the major Australian dailies are scanned for material suitable for inclusion. Other material which is added to the files where appropriate includes typed transcripts of news and current affairs programmes on television and radio. The files' major subject emphasis is on current affairs with a minor stress on material of historical interest. The coverage of political, economic and business news is good. Minor crime is not covered although major robberies and corporate crime are indexed. Sport is included only insofar as it has some political, or other significant aspect.

Other forms of access to information in Australian newspapers include clippings services such as those operated by the Australian Institute of Criminology and the commercial services offered by such companies as Press Cuttings Central Index in Melbourne, who supply clippings on specific topics to subscribers. Yet a further method of locating material in Australian newspapers is by using a published index to an overseas newspaper as a means of establishing when an event occurred and to deduce when it is likely to have been reported in Australia and then searching Australian newspapers.

Needless to say, such a method can have only minimal value in locating Australian news.

The current international position

Most librarians, and indeed researchers in history and the social sciences are aware of the two major English language newspapers, *The times* and *The New York times*, to which published indexes exist. Less well known in Australia are other published indexes and these include even those to other English language newspapers. While it is not my intention to give a comprehensive list of all current newspaper indexes, let alone an assessment of them, a number of observations on international practices should be made in order that the current Australian position may be seen in perspective. In a paper published in 1977, K.D. Sell listed some 28 published indexes to United States newspapers which were current at that time.⁹ These indexes included 12 whose coverage was geographically comprehensive in that these indexes attempted to provide access to material appearing in the newspaper irrespective of whether it was of national, regional, state or local interest. The other indexes listed limited their coverage by excluding various of these categories. The frequency of publication varied from bi-weekly to biennial with sixteen indexes being published monthly, the most common frequency. The publishers of these indexes, insofar as they can be identified, include fourteen libraries, three newspapers and the Bell and Howell Corporation, which at that time was responsible for producing nine current indexes. Over one half of all indexes listed were initiated within the last decade and are at least in part the fruit of the application of new computer based technology. Bell and Howell have commenced publication of specific indexes to two further newspapers since the publication of Sell's paper, *The Denver post* and *The American banker*. The corporation also publishes *Index to Black newspapers*, which provides access to ten Black American newspapers appearing in nine states. All Bell and Howell indexes are now available on-line through ORBIT.

It would appear that the majority of publishers employ this technology in producing their indexes. Production of *The New York times index*, for example, is linked to input to the New York Times Information Bank which is an on-line information service which also includes in its data bank material from some seventy other periodicals. A substantial thesaurus, *The New York times thesaurus of descriptors*¹⁰ which serves as a guide to both the *Index* and the Information Bank, has been created and a range of programs has been developed which allows the former to be produced from the *New York times* data contained in the latter. The same extensive abstracts of news articles may be retrieved using either index form. An interesting recent application of computer technology in the cause of improving access to newspaper information is found in the on-line News Retrieval Service offered by Dow Jones, publishers of the *Wall Street journal*. In contrast to their computer produced *Index* which provides brief abstracts, the on-line service allows subscribers to retrieve the full text of sought articles published in the most recent three month period. This on-line index, whose data base also includes material from *Barrons* magazine and the Dow Jones News Service, is claimed to be kept up to date on a daily basis.

Reference has already been made to the news retrieval system proposed for Australia by Thomson (Australia). This system which depends on key word indexing is already being used by *The [Kentucky] courier journal* and the *Louisville times* and is under consideration by other newspapers. The *Des Moines register index* is produced using a computer generated Key-word-Out-of-Context system in which headlines and, if necessary, the heading or

initial paragraphs of an article are scanned. Uniterm or multiword descriptors are identified from the text and tagged as subject descriptors. Although the system used relies essentially on natural language, some manipulation of title words in the headline takes place which allows augmentation through use of preferred terms from elsewhere in the text. Standardized conventions are used when entering the names of governments and their agencies.¹¹ The coverage of this index is limited to significant state and local news and each bi-weekly issue contains an average of only 110 articles. The Bell and Howell indexes, although also computer produced using computer on microfilm printing technology, are created through using more traditional methods of input, and a thesaurus based on Library of Congress and Sears lists of subject headings is employed in generating subject entries.

Current newspaper indexes also vary considerably in the scope and depth of their coverage. Not one index appears to be fully comprehensive in its coverage although *The Times Index* seems to provide access to all editorial material appearing in that newspaper. Therefore while routine announcements and non-news items are not found in the *Index*, letters to the editor concerning the first cuckoo of the summer are included as well as reports of fairly minor sporting events. Individual entries in the *Index* are generally brief and often just include the title of the article and an indication by code letter of whether it is a statement of account or a report on a broadcast, the issue of a dividend or a share, or a report of a church service, speech or parliamentary question. *The New York Times Index*, which uses a similar code, also tends towards comprehensive coverage of editorial content, although routine sports reports and other news reports of no intrinsic research value are not indexed. The relative insignificance of the volume of material excluded can be judged by the fact that some 325-350 news reports per daily issue are included in the *Index*.¹² The abstracts of articles provided by the *Index* are full in the extreme and often run to several hundred words thus obviating the need for many users to refer to the newspaper article itself. This contrasts strongly with the *Des Moines Register Index*, where, as has been noted above, the entries are limited to text-augmented title statements. The Bell and Howell Corporation also relies on brief subject statements for entries in its twelve current newspaper indexes. This seems quite understandable given that these indexes are usually sold together with the microfilm cumulations of the newspaper in question. Their indexes are selective in the material that they cover. Excluded are vital statistics columns, social news and routine sports reports, as well as non news material such as recipes and articles on gardening, hobbies, travel and personal advice. Crime reports are indexed only insofar as the persons involved are well known, or the crime or its prosecution attracts significant national attention. The indexes do cover editorials, letters to the editor, regular opinion columns and reviews of all types.

A considerably more selective policy tends to be employed by indexes which set out to provide access to more than one newspaper. Sell in his recent checklist¹³ has included one of these *The California News Index* which is now unhappily defunct. Similar indexes exist for the USSR,¹⁴ Germany¹⁵, India¹⁶ and Canada.¹⁷ The Soviet venture which appears fortnightly was founded in 1936 and by 1976 it was providing selective access to the contents of 38 newspapers. The *Indian Press Index* which was initiated in 1968 claims in its preface to index "all the signed or unsigned articles, special contents, editorials and important statements and letters published in 25 daily English (language) newspapers of India". A cursory examination of the *Index* indicated that coverage is not as comprehensive as claimed. The *Canadian News Index* appears to have a more clearly defined policy with regard to coverage of the 8 newspapers which it indexes. The *Globe and Mail* receives fairly comprehensive indexing although news reports of crimes and sporting events are treated selectively. Material appearing in the other newspapers covered is accorded varying degrees of treatment

depending on the paper in which it appears and on the geographic origin of the original news report. The policy employed in selecting material appears to err on the side of excess: quite a number of national, international and provincial stories are indexed for more than one newspaper, often when their information content varies little.

Another recent North American publication which seeks to provide selective access to more than one newspaper is the monthly *Newsbank*. It has a printed subject and name index. Subscribers may choose to receive copies of the entire fiche which includes up to 9,000 articles a month or alternatively they may subscribe to one or more of the 13 broad subject categories into which the collection is divided. The *Zeitungs-Index* which commenced publication in 1974 is a selective subject and name index to 21 German language newspapers published in the FRG, the DDR, Austria and Switzerland. The emphasis of the subject coverage is on public affairs and minor sport and crime reports are not indexed. The subject headings used are specific with no subdivision being made even for countries. 'See' references are not used and 'See also' references are inadequately used. 'Italien', for example, has no cross reference to Sozialistische Partei Italiens while 'Pritische Armee' and 'Scotland Yard' are both used as direct headings without reference to or from 'Grossbritannien'.

The level of demand for access to news in the USA is illustrated by the recent inception of the on-line National Newspaper Index which is available through Dialog. Cover-to-cover indexing of *The Wall Street Journal*, *The New York Times* and the *Christian Science Monitor* is offered. The significance of this new service derives from the fact that, as noted, separate commercially produced on-line indexes already exist to *The New York Times* and the *Wall Street Journal*. That 'rival' indexes should be offered by another commercial enterprise indicates the existence of a very buoyant market.

In this state of the art survey I have not attempted to provide anything like a checklist of current overseas newspaper indexes; much less have I attempted to assess them critically. I have endeavoured to give a broad outline of the types of indexes that do exist and their variations both in form and in content. My purpose in doing this is to indicate what possible types of access to Australian newspapers might be created.

The need for an Australian newspaper index

The need for an Australian newspaper index is hardly in doubt. That newspapers are retained by institutions beyond the time when they might reasonably be expected to have any current awareness value, indicates clearly that recourse is frequently made to them by researchers and others seeking specific information. The difficulty of locating material in newspapers is considerably greater than that experienced with any other periodical due to the number of separate articles published by newspapers and to the lack of any contents lists.

In the earlier part of this report I attempted to sketch the activities of AACOES, the National Library and various other libraries regarding the establishment of an Australian newspaper index. These activities, although to date unsuccessful, indicate a belief among librarians in the general desirability of such a project. This belief is clearly shared by numbers of academics and other research workers. Professor Rydon, for example, in a recent paper published by AACOES has lamented the limited access to newspapers that currently exists.¹⁸ That such a belief is widely held is not in dispute. What does need to be examined is the extent of the demand for improved access and the nature of the access required.

An outline of the results of the market survey carried out on behalf of the National Library has already been given, and it has been noted that the report on the survey recommended that the subscription level for a newspaper index be set at between \$150 and \$210 per annum thus maximising return on sales which would number approximately 25% of the total potential market of 2450. Although it is not specifically stated in the report, it would appear that this total estimated potential market represents only institutions in Sydney, Melbourne and Canberra. This seems likely as the total number of Universities was listed as 7 and sampling, as has already been pointed out, was itself limited to these cities. This indicated that the total number of institutions who would have been prepared to subscribe to an index at the cost of \$150-\$200 in 1973 would have been considerably in excess of the 600 found in the three cities surveyed. There are also indications that inadequate techniques were applied to the full range of 2,450 potential purchasers. The survey, for example, estimated the total number of libraries who were potential purchasers as 187. This figure was said to include university, public and special libraries. A mere 9.1% of these were interviewed which was the lowest percentage sample taken of any of the categories surveyed. In contrast to this the views of 28% of radio stations were sampled as were the views of 10.2% of an estimated 718 'organizations' and those of 28% of 53 embassies. Furthermore, the entire composition of the original estimate of 2450 potential users must be questioned; besides the category 'libraries', most of the other categories listed included institutions which one would normally expect to have a library anyway. Among these, mention should be made of 'Government departments', 'Government agencies', 'local metropolitan government', 'Management consultants', 'the top 500 companies', 'Institutes', 'Colleges', 'Universities' and 'Organizations'. It must also be recognized that the validity of the results of this survey must depend not only upon the sample interviewed being truly representative of the estimated potential market, but also on the market itself being properly identified in the first place. While these criticisms do not completely invalidate the results of the survey they imply that care should be taken in assessing them, particularly as no detailed breakdown of the results by category of institution is given. It is clear that the greater the number of institutions incorrectly assumed to be part of a potential market, and the lower the percentage of institutions sampled that are likely to be in the market, the more likely it is that the survey will have underestimated the real market. This appears to have occurred.

No market survey, no matter how well conceived, can serve to provide completely accurate predictions of the success or otherwise of any product. This is particularly the case when a new 'product' is involved. In the case of this survey, potential users were shown a sample newspaper index, but the full potential value of such a publication is likely to become fully apparent only over a relatively long period of familiarity. Market surveys at best merely indicate what markets exist. They do not give any information on needs except insofar as they are reflected in the stated willingness of potential users to pay for the product or service in question. It is also clear that no cash value can easily be given to research and consequently it follows that the same difficulty arises with tools that facilitate research.

The demand for access to Australian newspapers has already been referred to above in the survey of indexing and related activities currently taking place in Australia. The benefits at present accruing to potential users of newspaper information are far from commensurate with the efforts, indeed the duplication of efforts, involved in providing what access there is. The international trends in newspaper indexing,

and the fact that such indexing appears to flourish in most developed and not a few undeveloped countries, indicate the likelihood that comparable demand for access to newspapers must exist in Australia. The argument that Australia cannot support a newspaper index can scarcely go unchallenged in view of the fact that Papua New Guinea does in fact support one.¹⁹

The demand for access to information contained in newspapers can be seen as coming from two different interest groups, each having separate requirements according to the nature of the access desired. On the one hand, there is a demand for current and recent information to be quickly available. Those requiring access of this type include decision makers in the fields of politics, economics, banking, business, accounting, management consultancy, stock broking and journalism. There appears to have been a significant bias towards this group in the sample surveyed in the National Library's 1973 market study, which might go some way to explaining why 60 per cent of respondents to a questionnaire gave one week as the maximum time they would be prepared to wait for the period covered to appear in an index. There is some evidence to suggest that many of these users' requirements may not be met by recourse to an index by itself, mainly because they frequently need very rapid access to more substantial information than a simple index can provide, and often indeed require the original article or passage itself.

In the United States, as has been noted, on-line news information services strive to meet these needs by ensuring speedy access to substantial abstracts of material indexed if not to the full text. Few publishers of hard copy indexes wish to cut themselves off from this market and it is partly in consequence of this that most current indexes include some kind of abstract and are published at a minimum frequency of one month. The needs of this first group of users in Australia are at present generally met to some extent by various in-house arrangements and by clippings services.

The second main type of demand for an effective newspaper searching tool comes from researchers in history and the social sciences, as well as by undergraduates, school students and members of the general public. What characterizes the access requirements in this case is that users are not so concerned with how long it takes before a newspaper article is indexed. Users of this type frequently need to search long runs of newspapers and therefore have a preference for large cumulations. The tasks of these users do not require the same urgent attention as those of the former group, and their need for rapid access to the original material, or to abstracts of it, is not acute. The needs of this second and more traditional group of users in Australia are met to a very limited extent by card indexes and by the now defunct published newspaper indexes. The fact that *The Sydney morning herald index* only ceased publication in 1961 means that many researchers have yet to encounter the full consequences of the lack of a published index. A recent paper published in the United Kingdom has illustrated the extent to which teaching and research staff in the social sciences at British Universities rely on personal newspaper cuttings files and to a lesser extent on subscription to clipping services. The survey reported that an estimated one third of staff placed some reliance on this form of access.²⁰ In Australia where virtually no other form of access exists for the majority of scholars, there must be a considerable number of such personal clippings files. While the appearance of the Australian National University's *Australian public affairs collection* on microfiche may go some way towards improving access for Australian researchers,

it has rather obvious defects as was mentioned earlier, which limit its value particularly for users unfamiliar with them.

It is difficult to gauge with any degree of accuracy the potential number of subscribers to an Australian newspaper index. Publishers of indexes overseas seem reluctant to divulge either the number or the nature of their subscribers. Information received from the publisher of *The New York times index*,²¹ the erstwhile publisher of the *California news index*²² and the Bell and Howell Corporation²³ suggests that the bulk of subscribers are academic and public libraries with a significantly smaller number of government, corporate and other special libraries. More interesting, in the light of the omission of school libraries from the sample of institutions surveyed by P.A. Management Consultants, is the fact that these represented approximately 16 per cent of subscribers to *The New York times index*. The total number of subscriptions to this index is 4,500, while subscriptions to the Bell and Howell indexes vary between 39 and 1,000. Both the level and pattern of circulation of indexes in North America is clearly affected as much by the existence of many competing printed and other indexes as they are by the population these indexes wish to serve.

Australia is in a somewhat unique position, in that the varying community needs for access to newspapers are still only barely satisfied. The implications of the 1973 market survey were that there existed at that time potentially 600 subscribers willing to pay \$150-\$200 per annum for such an index. As has been pointed out the indications are that even at that time the number was quite conservative. It can be safely assumed that the potential number of subscriptions, at equivalent real money terms in 1979, will certainly not have decreased. The task facing the publisher of an Australian newspaper index is to maximise the market to which appeal can be made, through designing a service which will recognize the needs of different sectors within that potential market.

Source material for an Australian newspaper index

(a) Newspapers to be indexed

Traditionally indexes have been published to individual newspapers simply because in almost every instance these have been published by the newspaper in question. While it is the case still that the majority of published indexes serve only one newspaper, there appear to be substantial reasons for including more than one newspaper in any Australian index. If one is to exclude *The Australian financial review* which has a very specialized coverage and the *National times* and *Nation review*, which equate more with news magazines in everything but quality of paper, the only newspaper which even pretends to national coverage is *The Australian*. Random sampling of the coverage of the leading daily newspapers in all capital cities indicates that on five days spread over a year, 1-6-78, 1-7-78, 28-8-78, 6-3-79 and 1-5-79, the news coverage of *The Australian* is not an adequate reflection of what is deemed news by other newspapers. Even if sport is excluded one still finds that the editorial content of *The Australian* never seems to include much more than one third of the news reports included either in the *Sydney morning herald* or *The age* or indeed in any of the leading dailies. Nor do the random samplings indicate that the news appearing in *The Australian* is selected on the basis of its national significance. Fairly major national and international events often go unreported. The average daily number of state news articles appearing in the issue of all the major capital city daily newspapers on the dates mentioned are given below:

	N.S.W.	VIC.	Q'LD.	W.A.	S.A.	TAS.	A.C.T.
<i>S.M.H.</i>	25.8	1.8	.8	.2	.6	-	-
<i>The age</i>	2.6	26.5	.8	.8	.4	.2	.2
<i>The mercury</i>	1.8	2	.8	-	.6	43.6	-
<i>The courier mail</i>	2.8	2.2	25	.6	.6	.2	.2
<i>The advertiser</i>	.8	.6	-	-	14.8	-	.2
<i>The west Aust.</i>	2.4	1.8	.6	49	.2	-	-
<i>The Canberra times</i>	6.6	3.8	1.2	.4	1	-	15
<i>The Australian</i>	7.6	7	3.6	1.8	.9	.2	-

It is clear from these figures not only that *The Australian* is an inadequate source of Australian news, but so also are the other major dailies taken individually. Material from all of the state capital newspapers listed would need to be indexed if comprehensive national coverage were required.

The possibility arises of *The Canberra times* being eliminated at the price of losing access to Australian Capital Territory news, which generally is of little interest nationally. A cross check of actual news reports appearing in the newspapers listed, however, reveals that on the days sampled an average of 32 stories appeared exclusively in *The Canberra times*. If all A.C.T. news, all international news, and all sport stories were eliminated from this figure, an average of 8 exclusive articles remains. The quality of reporting in the newspaper particularly on political matters is another argument against its exclusion. When the same cross checking process was applied to *The Australian* it was found that a daily average of 31 articles, not counting material on sports and international news, were exclusive to the national daily. This would appear to suggest that it must form part of the source material for a newspaper index.

The Australian financial review, as has already been noted, is the only Australian newspaper, apart from *The Newcastle morning herald*, which is currently indexed to any substantial extent. As such, to include it in another index might appear to be a wasteful duplication of effort. There are, however, two considerations which together constitute a strong argument for its inclusion. In the first place, the index which covers the *Review* at present is a relatively expensive American business index without wide circulation in Australia. The *Review* is the only Australian publication which it indexes extensively. Secondly it must be acknowledged that any composite Australian index which excluded the nation's leading financial newspaper would suffer in terms of its appeal to a significant section of its potential market.

The National Library sponsored market survey of 1973 found that respondents to their questionnaires, when asked to choose six newspapers which they would like to see indexed, named *The Australian*, *The age*, *The Australian financial review*, *The Sydney morning herald*, *The national times* and the *Canberra times*. It is important to note that this survey only sampled opinions in Melbourne, Sydney and Canberra, which makes the choice hardly surprising and explains the exclusion of *The advertiser*, *The mercury*, *The west Australian* and *The courier mail*.

In summarizing my recommendations regarding source material for any proposed index, I must emphasize that nothing approaching equal treatment be accorded to the nine newspapers in question. Indexing of *The advertiser*, *The mercury*, *The courier mail* and *The west Australian* should be confined to state news and news which in some way is particularly relevant to those states. Indexing of *The age*, *The Sydney morning herald* and *The Canberra times* should be confined to national news and news from the state or territory in which each of these newspapers is based. Indexing of *The Australian* should exclude from its ambit all state news except when it becomes of national significance, e.g. a report on the effect of a state election on federal politics, and concentrate on national coverage. Both state and national news articles appearing in *The Australian financial review* should be indexed as this paper provides by far the best coverage in its area and business and economics news is generally of universal interest.

(b) Editions of newspapers

Indexing should be confined to the final editions of newspapers. News stories which have appeared in earlier editions and which have been removed completely from the final edition are likely to be of little consequence and not worth the extra effort involved in ensuring that all material in all editions is indexed. The type of news report which is dropped from final editions is the type of report which the newspapers might well not publish in any case and hence is not likely to contain material which index users might reasonably expect to be included.

The Australian is published in Sydney, Perth, Brisbane and Melbourne in both early and late editions. The only substantial difference between the regional editions is in the television guides and to a lesser extent in the sports coverage. Very rarely is there any other difference in editorial content. Indexing should therefore be confined to the final Sydney edition.

Subject fields to be covered by the index

In the preface to *Too good to be true*, George Bernard Shaw remarked that

Newspapers are unable, seemingly, to discriminate between a bicycle accident and the collapse of a civilization.

That this should be the case is not entirely the fault of newspapers or their editors. Newspapers are essentially concerned with what is new and the significance of what is new is not easily assessed. It must also be acknowledged that newspapers are produced generally for profit and that what is contained in them is put there to maximise sales. In these respects newspapers differ quite markedly from the scholarly periodicals normally subject to indexing. This must be taken account of in formulating an indexing policy. The 1973 P.A. market survey sought the views of potential index users on the type of subject coverage they regarded as essential. Nine categories of news were specified and the percentages of respondents specifying essential categories were as follows:

Australian public affairs	70%	Crime and court reporting	22%
Business and finance news	66%	Minor events and human	
Editorials	48%	interest reporting	19%
Overseas news and inter-		Womens' pages	13%
national affairs	42%	Sport	11%
Letters to the editor	34%		

Those surveyed were invited to suggest further categories, and the only significant addition proposed was 'supplements' which 11% stated to be essential. While these responses cannot be completely discounted, it must be recognized that they have been to some extent presupposed by the form of the questions. The surveyors appear to have made no allowance for a selective approach. It hardly seems likely that any significant number of potential users would require that all 'letters to the editor' be indexed. Nor indeed does it seem likely that so many users would wish for all crime and court reporting to be omitted.

What surely is required is an index to news appearing in Australian newspapers rather than an index to Australian newspapers. Selection of material for inclusion should be determined by an analysis of the material likely to be required for retrieval, bearing in mind the interests of potential users. The index should therefore aim at comprehensive coverage of significant reports in all areas relating to politics, economics, industrial relations as well as to business and company news. It is easier, at this stage to indicate areas of exclusion than to provide a full and accurate list of what should be included. Much of the material included in newspapers is not news and much of what is news is unlikely on account of its triviality to be required for retrieval.

Material of no topical interest on a range of diverse topics is often published by newspapers in the form of feature articles. The information contained in such articles is usually more effectively accessible by other means. Very general articles on aspects of science and technology fall into this category as well as historical articles. Such material may be excluded on the grounds that it is unlikely to be sought through a newspaper index while other material appears on a regular daily basis and therefore requires no indexing for retrieval. Obvious areas for exclusion are weather forecasts, tide forecasts, share price indexes, radio and television guides, law lists, vice-regal notes, advertisements, comic strips, recipes, motoring features, travel features, gardening features, chess and bridge notes, puzzles and photographs which do not illustrate a news story.

There is a strong argument in favour of excluding all sport except when it infringes directly on other areas. The average daily number of items relating to sport which appeared in the sample issues of those papers recommended for indexing was found to number 128. Furthermore, sport is organized mainly on a state basis and there are few reports in common between newspapers in different states. Sporting information is accessible without indexing; sporting events being organized, unlike other news events, on a regular and predictable basis. General stories on sports related to funding, violence, legal actions etc. should be included. Newspapers themselves show an awareness of the distinction these articles enjoy by including them in their news pages.

Crime reports should also be indexed selectively. The following should be included: corporate crimes; cases which substantially affect interpretation of law or the administration of justice; crimes involving thefts in excess of some agreed sum, or of goods to the value of that sum and crimes that acquire at least statewide significance for some other reason. General stories on crime in the form of surveys, analyses of trends should be included. Accident reports should in general be excluded, unless they involve multiple fatalities, have significant political, legal or other social connotations or involve prominent persons.

Television programme reviews, film reviews and minor theatrical reviews should be excluded unless they contain some other significant information. Book reviews should be excluded as most are already indexed in *Index to Australian book reviews*. While all editorials should be included, letters to the editor should be covered only insofar as they provide significant information or insofar as the identity of their authors confers significance on the views expressed. Special features containing a number of articles on one general topic are often contained in newspapers, sometimes in the form of supplements. No precise policy can easily be formulated on whether they should be indexed and each should be treated on its merits. In general, when the information found in these features is such that one might expect to find it in a newspaper and it is the type of information liable to be sought in the future, the material should be indexed. Many newspapers, for example, frequently publish features on computers and data processing and consequently newspapers have become a source for a certain level of new information in this area. Special features and supplements are also frequently published on specific countries dealing with politics, culture and economics. These too are worth indexing. Special supplements on new shopping centres, housing developments etc. which are often indistinguishable from the advertisements that surround them should be excluded. Educational material for school students should not be indexed.

Regular opinion columns, social and gossip columns and humorous articles can neither be included nor excluded on principle and should therefore be scanned for significant information.

The coverage of overseas news in Australian newspapers has declined significantly from the time earlier in this century, when up to 80 per cent of news reports in the major papers were of overseas origin.²⁴ An examination of the overseas content of the nine newspapers recommended on the five days sampled reveals the following daily number of non-Australian overseas news articles.

SMH	AUST.	AGE	MER.	C.M.	ADVERT.	W.A.	C.T.	AFR
18	19	16	8	10	7	15	25	16
24	12	20	8	17	17	36	26	10
18	11	22	10	16	9	19	18	11
19	8	20	22	14	9	19	18	8
23	21	14	11	20	15	28	29	7
20.4	14.4	18.4	11.8	15.4	11.4	23.4	23.2	10.4

A very high number of these articles come from the various press agencies and are duplicated in several Australian newspapers. Many consist of sports or human interest stories and a very high proportion of them are very brief. The variation in the extent of foreign news coverage between different newspapers and between different issues of the same newspapers suggests that most Australian newspapers are not a reliable source for overseas news. There is also some argument for excluding foreign news on the grounds that it is adequately covered by other English language indexes, but it must be recognized that these indexes are not widely available in Australia and that it is somewhat unreasonable to expect subscribers to an Australian index to pay for access to more information

than they require by subscribing to two indexes. It has already been noted that 42 percent of respondents to the 1973 market survey regarded such coverage as essential and therefore on balance some inclusion of foreign news is recommended. It is proposed that this be limited to such foreign news articles as meet the other criteria established for the index, and appear in *The age*, *The Sydney morning herald* and *The Canberra times*.

If a policy of comprehensive indexing of all editorial content of the nine recommended newspapers were to be adopted, the following average daily input, based on the sample surveyed, might be expected:

SMH	AUST.	AGE	MER.	C.M.	ADVERT.	W.A.	C.T.	AFR
86.6	85.8	106	94.6	87.8	68	116.6	90.8	64.6

On application of the selection policy described these figures would reduce to:

SMH	AUST.	AGE	MER.	C.M.	ADVERT.	W.A.	C.T.	AFR
63	45	75	27	18	16	23	47	54

These figures naturally reflect the editorial policy of the newspapers concerned as much as the selection policy. *The Australian financial review*, for example, does not include any sport, minor crime and few 'non-news' articles, and the higher proportion of material included from *The mercury* than that from *The courier mail* is due to the latter's greater concentration on national and international news. It should be noted that the policy for selecting material described takes no account of the quality or length of articles but is based solely on subject content. This will result in the inclusion of a large number of brief articles particularly in the fields of international affairs and business news. It has already been indicated that the coverage of international affairs, even in the papers recommended as a source of such material, is somewhat inadequate. If material were to be excluded on the grounds of its brevity alone the resultant index would be of little value as a means of access to world news. Equally it appears that the exclusion of articles on business and finance on the grounds of their brevity alone would detract from the value of the index to a significant proportion of its potential users.

Reasons for the failure of previous Australian newspaper indexes

It is required in the terms of reference of this report that some consideration be given to the reasons why so few Australian newspaper indexes have been successful. The failure of the *Sydney morning herald index* and absence of any real successor to it for the greater part of twenty years may tend to sustain the view that there is no market for an index in Australia. Rather than dealing with the question directly when examining previous and current forms of access to newspapers I have chosen to raise it in the context of the foregoing description of the requirements for such access.

The limitations of previous indexes to Australian newspapers, from the point of view of the quality and consistency of indexing practices employed, have already been indicated and although these rather obvious flaws contributed in some way to the demise of various indexes it does not seem likely that they were a major factor. As has been shown above, Australia lacks anything approaching a national 'newspaper of record'. The market for any newspaper index is unlikely to penetrate beyond the territorial boundaries set by the coverage and circulation of the newspaper indexed. No serious consideration was given to producing a composite index to a range of newspapers, possibly because there has existed until recent times an expectation that the proprietors of newspapers were the most likely compilers of indexes.

It should also be borne in mind, when considering the demise of the *Sydney morning herald index*, that it is only in the present decade that the number and variety of newspaper indexes has grown dramatically throughout the world. As has been noted above the recent rapid development of newspaper indexing is in part a product of the increasing availability of relatively cheap computer technology. Micro-reproduction has also ensured that backsets of newspapers have become a more manageable resource for researchers and the libraries that serve them. Furthermore there has been an increased demand for access to newspapers brought about by the expansion of research activity in the social sciences and also by the more acutely perceived need for greater current awareness of those involved in business, commerce, industry and politics.

Physical form of the index

The likely scale of this undertaking in terms of the number of articles to be indexed, together with the need for rapid access by a large section of potential users, points to the need for computer technology in creating the index. There are strong arguments indeed for confining initial availability to an on-line service and COM print outs. As stated earlier the market for a newspaper index cannot be accurately forecasted and although the implications of the PA survey would indicate that between 600 and 1,000 users would be prepared to pay a subscription of from \$300-\$400 per annum, at today's money values, a conservative approach is highly recommended. Growing use is being made of on-line information retrieval services in major Australian libraries (AUSINET now has a membership of 45 institutions) and the cost of access to on-line systems is now within reach of many potential users of a newspaper index. The provision of on-line and COM editions only, at the early stages, seems an economic means of meeting fully the needs of many potential users while a more accurate assessment is made of the best means of providing other forms of access to the index. There are certainly many institutions whose needs could best be met by a hard copy or microform index and who would be reluctant to pay for access to an on-line service. It has been indicated above, however, that for many of these users frequency and currency of

publication is not of great concern. The establishment of the on-line service as proposed, ensures that the capacity for production of other forms of the index at a later date is retained.

The automation of the index also allows for easy compilation of biographical and other special subject publications. The *New York times index* has published a number of the former and Bell and Howell's *Watergate index*,²⁵ which provides access to the original *Washington post* material is an example of the latter.

Level of indexing

The type of access required to newspapers by the overwhelming majority of users is by subject. While *The New York times index* also provides an author approach to some material, there appears to be little justification for the practice. The authority for material appearing in newspapers, such as it is, is derived from the newspaper and rarely from individual journalists. In this regard newspapers differ markedly from specialist periodicals which engage specialist writers. Author entries in a newspaper index are justified only when an article has been written by someone, whose views are *per se* significant. Personal name entries should be reserved for persons significant in their own right, or likely to become significant, and whose names appear in articles indexed. The nature of news being what it is, it is of course difficult to anticipate the significance which may attend to named individuals in the future and consequently in general it seems wiser to err on the side of inclusion. The names of those involved in public life in any way should therefore always be indexed. The indexer should be guided by whether or not the name in question can be expected to become a 'key' for the user.

Direct subject headings should be used when at all possible. As has been indicated earlier, these are favoured by all the major current newspaper indexes. Given that the index should be computer-based they should be uniform in form and co-ordinated at the point of retrieval or print out. There has been, as already noted, some speculation concerning the possibilities of key word and even automatic indexing. At present there is a growing trend toward computerized type setting and other forms of automation in newspapers. This leads to the complete text of newspapers being maintained on computer. It may be argued that the identification of key words in the text at the time of input or even the use of some program of text recognition may facilitate the generation of an index as a by product of newspaper production. To date however, there do not appear to be any newspapers employing this new technology extensively, although, as mentioned above, the new on-line Dow Jones index does allow for full text retrieval for a three month period. There would appear to be considerable technological problems in developing an adequate text recognition program. Furthermore there are much more basic problems to be faced even if manual key word indexing is to be practised. It hardly needs to be argued that the titles of newspaper articles provide anything approaching a true description of the contents of the articles which follow. The compilers of the *Des Moines register index* argue that the leading paragraph in a news report normally serves as an abstract to the article as a whole

and that this may be scanned for key-words which allows for the creation of their computer based service. They concede that key terms appearing in the rest of the text must sometimes be substituted for those appearing in the lead.²⁶ Allowance is also made for predetermined forms of entry for governments and other institutions. Much of the economy of this system seems to reside in obviating the need to read the articles to be indexed and this seems based on the highly questionable assumption that the initial paragraph is a true abstract. Leaving this aside, however, a much greater problem seems to arise in dispensing with vocabulary control. While key-word indexing appears to work adequately with material in the physical sciences, where there is substantial agreement on a precise terminology, it works less well in the social sciences and humanities, where there is far less agreement on a strict terminology. It is hard to see how it can usefully be applied to newspapers at all given their predilection for slang and where there is great inconsistency in the language used.

It is recommended that a thesaurus be used in creating subject headings or alternatively that a thesaurus be developed in the process of indexing. It does not seem possible to develop a new thesaurus specifically for this purpose without the experience of a substantial amount of newspaper indexing. Among existing thesauri which should be seriously considered are the *New York times thesaurus of descriptors*, a thesaurus soon to be published by Bell and Howell and the new *AP AIS* thesaurus. While the former is greater in scope and more specifically designed for newspaper indexing, its bias towards American terms might make it unsuitable to Australian needs. The *AP AIS* thesaurus while not designed for newspapers has been designed to cover generally the same subject areas as are covered by newspapers. The proposed index is likely to attract many *AP AIS* users and there would be considerable benefit in having the same descriptors used in both indexes, as identical search strategies could then be applied to each.

The WAIT pilot index made use of two levels of descriptors, one specific and the other very broad. The purpose of this was to allow for the development of a future printed index without the expense of using a computer program. This practice would not be suitable as a long term basis, as WAIT staff point out, and would provide only an alphabetico-classed index.

Cross references used in any proposed index should include 'see' references as well as 'see also' references to indicate 'broader term', 'narrower term' or 'related term'.

Entries in the index should also include brief abstracts to augment the information given in the title. This is particularly important for two reasons. Firstly it has been noted that at present the needs of many potential users are met by clippings files or services providing clippings. The attraction of such a service to users consists partly in that it dispenses with a stage of the search operation and in that it provides direct access to the information sought. Information contained in an abstract can effectively obviate the need to consult the full text in many cases. The second reason why the inclusion of abstracts seems to be essential is the limited availability outside the area of their circulation of many of the newspapers recommended for inclusion. In Melbourne for example only the State Library of Victoria subscribes to all those listed.

Consideration should be given to title augmentation as an alternative to abstracting as, without question, use of the former will enable both the computer connect time charges and the staff time taken to enter such records to be reduced. It is difficult to know whether indexing time per item would be substantially affected as the brevity of any precis is not directly related to time spent in its compilation. Computer storage charges would be affected by the average size of records but this would not be a factor if the index was to be mounted by an AUSINET member. Any savings made by restricting the size of abstracts runs the risk of deterring prospective users in the field of business, politics and industry for whom overall speed of retrieval is essential. It is worth noting that the major on-line newspaper data banks such as the New York Times Information Bank, the Dow Jones News Retrieval Service and the Info-key Service all provide substantial abstracts or full text retrieval. The sale of the Bell and Howell indexes whose abstracts are little more than augmented titles are linked to the sale of their microfiche backsets of newspapers. The abstracts recommended should be more concise than those provided by the *New York times index*, yet fuller than those appearing in the Bell and Howell indexes. Style and grammar should be sacrificed at the price of factual content.

Entries should also include some indication as to the length in column inches as well as the form of the article indexed. A code similar to that used in *The times index* should be used showing whether the item indexed is a letter, editorial, report of a speech or whatever.

Responsibility for compiling the index

The National Library might seem the obvious institution to take responsibility for undertaking such a major project given that it is already involved in producing *Australian national bibliography*, *Australian government publications* and *APAIS*, the three existing national bibliographical services. It has been pointed out earlier, however, that the National Library has already given consideration to a newspaper indexing project and presumably rejected it. The scale of the proposed index is such that no single institution is likely to be able to carry the cost of its establishment alone, nor can any such project be expected to be self-financing, at least in the initial period and the National Library does not appear to have sufficient staff available at present to ensure regular up to date coverage of Australian journals in *APAIS*, without embarking on another formidable project.

A number of newspaper publishers have already been approached and have rejected any suggestion that they should publish indexes to their own papers. In any case, as indicated, no single-newspaper index is likely to be commercially successful and certainly no individual newspaper can be said to provide adequate coverage of Australian news. It also seems unlikely that the needs of journalists can be met by anything other than full-text retrieval systems. It is possible that the Info-key system promoted by Thomsons will find favour among publishers as it meets this requirement, but newspaper publishers cannot be expected to evince much interest in an index as such since it is not likely to be a profitable exercise.

Given the scale of this project and the likely costs involved it would indeed be desirable if some commercial enterprise were to undertake it independently. This seems unlikely given that no private company in Australia seems to have any particular expertise in this area. Thomson (Australia), a summary of whose proposals is appended, might be invited to participate if their alternative venture proves unsuccessful. Bell and Howell have given consideration to producing indexes to English language newspapers published outside the U.S.A., but are at present unsure of what the market potential of such indexes might be.²⁷ Their indexes to major daily newspaper are sold at a price of US\$225.00 per annum for monthly hard copy indexes, with annual cumulations. This price level is presumably profitable, although as noted, the number of subscriptions to the various hard copy indexes is in some cases as low as 39 and in no case exceeds 1,000. One wonders however whether a sale of 39 hard copy subscriptions can be profitable. The cost of a composite index of nine newspapers with the same market potential would probably be considerably in excess of this. Bell and Howell are able to produce twelve fairly comprehensive indexes to current daily newspapers, a selective *Index to black newspapers*, which selectively covers ten newspapers as well as retrospective indexes to a further range of newspapers, using in all, only fourteen indexers and editors. On the face of it at least, their indexing activities appear to constitute an extremely efficient operation. They also offer a contract indexing service which provides for indexing of newspapers to the customer's specifications.

There would be a number of problems if Bell and Howell were to produce such an Australian index, particularly if the index was to be compiled at their Newspaper Indexing Center in the U.S.A. Inevitable delays would result due to the distances involved and American indexers would lack familiarity with Australian news and with the terminology used in Australian newspapers. In general, I would assume that an American produced index could not be as responsive to our users as one produced in Australia, but these problems are not insuperable and it is possible that part of the work at least could be carried out in Australia. If the Thomson proposals and the proposal for a co-operative index, described below, do not meet with success, then an official approach should be made to Bell and Howell and copies of both the P.A. Market Surcey and this report should be made available to them. Alternatively AACOBs may wish to consider the possibility of involving Bell and Howell in a joint venture with a consortium of Australian libraries at the risk of losing some control over the project.

The existence of AUSINET and the capacity which it offers both for retrieval and for data bank building coupled with the need to keep costs on any one institution at a minimum, point to the desirability of establishing the index on a co-operative basis. As has already been noted, a number of institutions are already indexing the newspapers in question and the further effort which might be required to modify their policies and to input entries according to an agreed format, would not be great, considering the benefits accruing to users nationally. As well as spreading the costs of maintaining the service the co-operative approach allows for the index to be established in a piecemeal fashion. Initially it may prove difficult to secure the participation of a sufficient number of institutions to ensure the indexing of all nine newspapers recommended. The index could be established initially on a smaller scale with the co-operation of a few institutions and covering only a limited number of newspapers. The service can be expanded easily at any time once the criteria for selection of material and indexing have been agreed upon in advance. The experience of the institutions initially participating as regards the cost and the value of the service would also act as a guide to further development. Co-operative indexing also offers an advantage in ensuring that newspapers are indexed in the city of their publication where indexers are likely to have a better understanding of local and regional news material than would be the case if this was carried out elsewhere.

The various state libraries, the National Library and the Commonwealth Parliamentary Library would appear to be the institutions best suited to participate in a national co-operative newspaper indexing project. As has been noted, a number of the state libraries already maintain card indexes, whereas the latter two institutions maintain extensive clippings files. At present the majority of state libraries are not members of AUSINET but the joining fee should not be seen as a significant deterrent to institutions wishing to participate. Total reliance however, should not be placed upon the participation of state libraries as in some states other institutions may be found to be more willing and better equipped to provide the service. A consortium of participating institutions should be created to oversee the establishment and maintenance of the service.

The cost of a co-operative newspaper index

(a) Staffing needs

The greater part of the costs of the proposed system will consist of the cost of staff time involved in the indexing and consequent on-line data base building. The WAIT pilot newspaper index project, which is broadly similar to what is proposed here, gave the following breakdown of staff time involved in indexing 172 items over one week:

Selection	2 hours
Indexing/Abstracting	23 hours
Editing	2 hours
Data entry (typing)	8 hours
Total	<u>35 hours</u>

The time per article indexed was therefore; 9.4 mins. of professional staff time
plus 2.8 mins. of non-professional (typist) staff time.

The experience of the National Library in producing ANSOL and APAIS, however, suggests that if a thesaurus is used and a name authority file is to be developed both the professional and non-professional staff time required will be much greater. The National Library estimates, on the basis of slightly adjusted averages of the WAIT, ANSOL and APAIS figures, that the time required per article indexed would be as follows:

16 minutes professional staff time

4 minutes non-professional staff time

These figures appear quite generous particularly in view of the brevity of many of the articles to be indexed.

The weekly data base in the proposed scheme would amount to some 2,154 items and the labour required would consist of:

2154 x 16 = 34,464 mins. = 574.4 hours of professional staff time
plus 2154 x 4 = 8,616 mins. = 143.6 hours of non-professional staff time.

Broken down between the various newspapers according to the system proposed the appropriate weekly staff times required are estimated as follows:

	SMH	AUST.	AGE	MER.	C.M.	ADVERT.	W.A.	C.T.	AFR
Av. daily input	63	45	75	27	18	16	23	47	54*
Av. weekly input	378	270	450	162	108	96	138	282	270
Prof. Staff time	101	72	120	43.2	29	25.6	37	75.2	7.2
Non-prof. staff time	25.2	18	30	10.8	7.2	6.4	9.2	18.8	18

* The Australian financial review is issued five days a week.

As can be seen from these figures the staffing requirements are likely to be considerably greater in Sydney, Melbourne and Canberra than in the other capital cities. There may consequently be a case for the costs to be spread among a number of institutions in these centres, although this might be difficult to arrange. There would appear to be considerable advantage in using staff attached to the relevant institutions in that staff overheads and other miscellaneous costs could be absorbed. Using the Australian Public Service hours/year figures of 1,612 hours spread over 52 weeks to give a weekly output of 31 hours, the staff required to handle 2,154 items each week for a year would then be 19 professionals and 5 non-professionals.

While it should be theoretically possible to dispense with central editing of the index, given that criteria for selection of material and for indexing are agreed upon, the co-operative nature of the proposed system will probably demand some kind of national co-ordination. It may not be essential, to appoint a full time editor, particularly at the outset. Initially one of the participating institutions should be given responsibility for co-ordinating input but it is the view of the National Library that in a centralized location the supervision of such a project would involve all of the time of a Class 3 librarian and part of the time of a Principal Librarian, with a total annual cost of about \$22,000.

The total staff costs would then amount to:

National editing staff costs		\$22,000
Indexing costs	19 x 14,000 =	\$266,000
Non-professional staff costs	5 x 9,000 =	\$45,000
Total staff costs		\$333,000

(b) Computer technology costs

If a consortium of institutions is formed and becomes an AUSINET member the following charges would normally apply:

Data entry from participant's terminal	\$10 per connect hour
Data base updates	\$50 per update

It is likely that ACI Computer Services would be prepared to negotiate on the charge made for updating the data base. This is because of the probable size of the data base and the need for frequent updates to be made from at least seven different participants. The need for the service to keep up to date has already been stressed but the precise frequency with which data can be added must depend upon the price negotiated.

It is estimated that the index entry records should include an average of no more than 500 characters and that time taken to enter such a record should not exceed three minutes. The overall cost of entering an average weekly batch of records should therefore be $2154 \times \$0.50 = \$1,077$ plus whatever update charges are made.

There exists some argument for establishing the service outside of AUSINET and yet making use of the ACI network and data building facilities. It may be reasoned that many of the index's potential users have no particular interest in any of the other data bases offered by AUSINET, and that consequently a more economical service could be offered to users who would not wish to support the maintenance of other data bases. It is difficult to say at this stage whether or not this would be the case as ACI might be willing to negotiate on their charges. At present however, ACI charges \$75 per update to users who are not members of AUSINET. Such users are also liable to a charge of \$12.50 per million characters stored per month. This would add to the cost of the proposed index by approximately \$50 in the first month of its creation, with a cumulative increase of the same amount in every subsequent month.

While both approaches should be investigated through discussions between AACOBS, or any consortium of institutions established to produce an index, and ACI, the level of charges for updating files would appear to be of crucial importance. This must be balanced against any reduction in the charges for searching made possible by establishing the index outside of AUSINET. In general, the arguments for maintaining the service within AUSINET at least in the initial stages, seem to be persuasive. The majority of potential users in the early stages are likely to be major libraries and hence members or potential members of AUSINET. Making the service available through a network also dispenses with the need to market it independently and this will be an advantage until initial problems are sorted out. There is also some possibility that ACI would look favourably on the addition of another major Australian data base to the network because such an expansion is likely to increase the overall attractiveness of the network. This would be a factor in negotiating charges. It may also be argued that the strengthening of Australia's only computer based information network is a good thing not only for ACI and AUSINET members but also for libraries and other institutions with an interest in information retrieval.

(c) Additional cost of producing a COM edition of the index

Since the original Feasibility Report was first submitted to the AACOBS Working Party on Bibliography I have attempted to get costings for COM edition of the proposed index. ACI do not print fiche and could only supply costings for processing tape from which fiche could be printed. The estimated cost of producing such a tape, using the INDICAT format (as is used in *Australian education index*), would be \$25,000 per annum which allows for monthly cumulating editions. There is also a \$1,000 charge made once only for any index using INDICAT. Mr Ian McCallum of ACI laid great stress on the fact that the \$25,000 was a 'ball-park' figure based on ACI's standard charges. He stated that ACI would be willing to carry out a detailed feasibility study on the whole proposal in order to get more meaningful estimates of all the systems costs involved, which are likely to be considerably less than those based on standard charges and used in my Report. The cost of such a study would be \$500. I have written to Mr Borchardt advising him of this.

I approached the IDAPS COM Bureau for an estimate of the cost of producing the actual fiche from tapes supplied. The cost of the number of master fiche required each month, plus the cost of producing up to 500 copies of each fiche would not exceed their minimum monthly charge of \$90.

(d) Other costs

The other costs involved in establishing an on-line newspaper index would be marginal and would include the cost of developing a thesaurus or adopting an existing one. The cost of leasing suitable terminals for data entry is \$200 per month, although as many of AUSINET's 45 members already lease such terminals, this cannot be regarded as a cost factor in establishing an index. There will of course be costs connected with printing if and when it is decided to produce hard copy.

Cost recovery

It is not proposed to make any extra charge for use of the index, if it is made available on AUSINET, until it has been properly established for a period of at least six months. However, if the index is established with ACI independently of AUSINET, charges will have to be made even in the initial period, to provide cost recovery to ACI. After this probationary period consideration might be given to supplementing the existing connect charges for data base interrogation. The extent of the additional charge will be determined in part by the volume of use the service experiences. The charges should be set at such a rate as to guarantee at least the return charges made by ACI for each entry. Through AUSINET these charges are likely to amount to \$5,000 monthly allowing \$700 for updating charges.

The total annual cost of the on-line index is likely to be:

Computer charges	\$60,000
Total professional staff	\$288,000
Total non-professional staff	\$45,000
Total	<u>\$393,000</u>

It does not seem possible that these costs can be recovered in full from an on-line service only but it must be remembered that considerable staff costs are already being borne by libraries carrying out indexing and it may be argued that many other libraries which do not index newspapers have a certain obligation to expend funds in improving access to newspapers.

The possibility of cost recovery is greatly enhanced if a COM version of the index is to be marketed. The total annual cost to be recovered amounts to

Cost of on-line index	\$393,000
Cost of preparing tapes	\$25,000
Cost of actual fiche (500 copies)	<u>\$1,080</u>
Total	\$419,080

Assuming that the only recovery is from sales of fiche the price per fiche subscription sold would have to be set at \$838 per annum.

Supplementary Recommendation on a commercially produced index

I include as Appendix A a copy of a proposal made by Thomson Publications (Australia) to a number of newspaper publishers for the establishment of a news retrieval system using the Info-key-system of microfiche full text clippings linked with a computer based index. The greatest attraction of this proposal is that the service would be created and financed by a consortium of Thomson Publications, the major newspaper publishers and the Commonwealth Parliamentary Library. It is the view of Thomson Publications that the establishment of the service would result in savings being made by all the participants without it being sold to outside institutions although attempts would be made to market it.

The system appears to meet many of the criteria of a news retrieval service listed earlier in this report. It would be speedy, allow for full text retrieval and cover a large range of newspapers. There are, however, a number of criticisms which must be made of the proposal as set out below. On the first page of Attachment A it is stated that the media input would consist of 22 daily and 10 weekly Australian newspapers as well as transcripts, presumably of radio and television broadcasts, and possibly some material from overseas newspapers. Yet it is concluded that only 8,000 clippings a week would be taken from all of these. The total number of articles appearing weekly in the nine newspapers recommended for selective indexing above amounts on average to nearly 5,000. Clearly, some selectivity must be applied to reduce the number of clippings from over 32 newspapers to 8,000 a week, although no such policy is mentioned. It is likely that newspaper publishers would require comprehensive indexing if the proposed system is to replace the use of newspaper library 'morgues'.

Another criticism which may be made of the proposal is its use of key-word indexing, the disadvantages of which have been indicated earlier. It is not clear what vocabulary control is to be exercised in the selection of key-words or indeed if they are to be derived from the text. The proposal also takes a very optimistic view of the rate at which articles may be indexed. On page 2 of Attachment D the time allowed for indexing is 32 man-hours per day which amounts to 160 per week. In order for 8,000 articles to be indexed in this amount of time, staff would have to index material at the rate of 50 items per hour. This contrasts markedly with the experience of the WAIT project when less than 7 articles were indexed and abstracted per hour. It seems unlikely that an article can be read and assigned key-words accurately in an average time of 1 minute and twelve seconds.

There are a number of other minor problems with the proposal; for example, allowance is made for 15 key-words per article when calculating the computer storage requirements, while no allowance is made for a reference citation. Despite all its limitations, however, this proposal ought to be taken up by AACOBs and an official approach made to Thomson Publications. The proposal has to date neither been accepted or rejected by the newspaper proprietors. Thomson Publications state that they would be prepared to undertake the development of the service themselves provided an agreement can be made with the newspaper publishers concerning copyright and royalties. Clearly Australia cannot support two national newspaper indexing services and it is therefore essential that the position regarding the Thomson proposals should be clarified before any steps are taken to duplicate effort. If the Info-key-service is to be initiated it is important that the needs of potential users as perceived by AACOBs be brought to Thomsons' attention. Consideration should also be given to participation by AACOBs or the National Library in any consortium formed.

Summary of short term action recommended to AACOBS

I should like in conclusion to reiterate the course of action recommended to AACOBS in the short term.

1. To approach Thomson Australia Pty. with a view to ascertaining the likelihood of their initiating their proposal for an Info-Key Index.
2. If it is judged that the Thomson proposals are likely to be implemented, then consideration will have to be given as to whether or not any parallel index can succeed.
3. If it is discovered that the proposed Thomson Index is unlikely to be initiated or alternatively if it is decided that their proposed index will not significantly meet the needs of potential users and that another index is required, then consideration should be given to the various advantages and disadvantages of
 - (a) A co-operative index produced by a consortium of Australian libraries
 - (b) An index commercially produced by Bell and Howell with or without participation by Australian libraries.

There would appear to be a range of possibilities for a joint commercial venture and these would include simply contracting all indexing to Bell and Howell required specifications. In any case it appears that there would be considerable value in making an official approach to Bell and Howell in order to ascertain what kind of participation they would consider, as their indexing operations appear to be highly cost-effective.

4. If a co-operative venture involving a number of Australian libraries with or without commercial participation is envisaged, then these libraries must be approached on an official level in order that the likelihood and conditions of their participation, can be judged.

NOTES

1. National Library of Australia. *Development of resource sharing networks: interim report and surveys*. Canberra, 1975. p. 64.
2. W.G. McGinn, 'A newspaper index project' *Journal of the Royal Australian Historical Society* vol. 53, 1967, pp. 69-71.
3. *F & S Index international*, vol. 1, 1967-
4. B. Kelman, Pilot newspaper index - progress report: [Document issued and circulated among libraries. Dated March 1979]
5. H. Mayer, *ARGAP; a research guide to Australian politics and cognate subjects*. Melbourne, Cheshire, 1976, pp. 24-29.
6. *Ibid.*
7. National Library of Australia. *Australian bibliography and bibliographic services*. Canberra, Australian Advisory Council on Bibliographic services, 1960, pp. 37-42.
8. *Ibid.*
9. K.D. Sell, 'A checklist of published indexes to current American daily newspapers.' *RQ*, vol. 17, 1977, pp. 13-16.
10. *New York Times thesaurus of descriptions*. N.Y., Microfilm Corporation of America, 3rd ed., 1971.
11. W.H. Mischo, 'A computer produced newspaper index'. *Journal of library automation* vol. 10, 1977, pp. 41-42.
12. E.A. Reno, Editorial Vice-President, Microfilm Corporation of America, personal correspondence. 14.5.1979.
13. K.D. Sell, *loc. cit.*
14. *Letopis gazetkh statei* vol. 1, 1936-
15. *Zeitungs - Index Jahrgang 1*, 1974-
16. *Indian press index* vol. 1, 1968-
17. *Canadian newspaper index* vol. 1, 1977-
18. J. Rydon, 'Bibliographic aids to the study of Australian politics' In D.H. Borchardt, ed. *Seven essays on Australian bibliography*. Canberra, AACOBS, 1977, p. 6.
19. *Post courier selective index* vol. 1, 1972-
20. C.M. Mason, 'Press cuttings and the social sciences' *Aslib proceedings* vol. 28, 1976, pp. 230-242.
21. E.A. Reno, *Loc. cit.*
22. J.C. Trzyna, President, Centre for Californian Public Affairs, personal correspondence, 18.5.1979.

23. J.A. Austin, Supervisor, Bell and Howell Newspaper Indexing Center, personal correspondence, 18.5.1979.
24. C.A. Hughes and J.S. Western, The geographical sources of foreign news in Australian newspapers. *Australian outlook* vol. 27, 1973, pp. 86-97.
25. *Watergate index*. Wooster, Bell and Howell, 1976.
26. W.H. Mischo, *Loc. cit.*
27. J.A. Austin, *Loc. cit.*

APPENDIX APROPOSAL FOR A NATIONAL SYSTEM FOR INFORMATION STORAGE AND
RETRIEVAL - PARTICULARLY NEWSPAPER AND NEWS MAGAZINE CLIPPINGS
AND AIR MEDIA TRANSCRIPTIONS

Presented by: Thomson Publications (Australia) Pty. Limited

Date: November 1977

File storage and retrieval of newspaper clippings and related information is a task currently performed by the media and by major libraries as a cost-centre, basically as an internal research tool.

Broadly speaking, the task is duplicated in each major location - with varying degrees of sophistication.

Many sectors of the community need access to this information and the creation of a centralised direct access system on a national network could provide many benefits while satisfying these needs.

This proposal is for the development of a joint venture company (or co-operative) comprising Australia's major media owners, the Federal Parliamentary Library and Thomson Publications, to develop this project.

A joint venture - or co-operative for two main reasons:-

1. All of the information going into the system is subject to copyright and the media members of the co-operative - the owners of the copyright - will need to agree to release their published material into the system.

It is our belief that this will never reduce the sales of newspapers in their original form. The information in the media produced by the major media owners (the proposed members of the co-operative) is the primary resource to be exploited.

2. Profit made from marketing the national network to all sections of commerce, industry and government will return to the co-operative members.

Two non newspaper members of the co-operative are Thomson's and the Parliamentary Library. Each brings a valuable contribution to the venture.

The Parliamentary Library brings a very high level of library technology and systems and is also probably the biggest user of this type of information.

Thomson Publications has the ability to organise the development of this project and the ability to market the resultant services. (See Attachment A - Services).

The trend is to decentralisation and this project appears to propose the opposite - centralisation. There are some very decisive benefits in the proposed system.

Firstly, there are benefits in automated permanent files compared to the present manual paper file systems. (See Attachment B).

The obvious benefits in non-duplication of efforts by each of the ten or more major users of this type of information are detailed in Attachment C.

The major benefit of participating in a profitable joint venture operation and converting an in-house cost centre into a profit centre must be attractive. See Attachment D for preliminary projections.

The dangers of loss of individuality - loss of control over a major resource - loss of service from the system are all fears that must be laid to rest. Attachment E attempts to disclose and deal with these negative aspects of the proposal.

Footnote

It should be noted that Thomson Publications would be prepared to undertake the development of the service on its own with only an agreement from the media proprietors to allow the inclusion of their newspapers and air media transcriptions on a royalty basis.

ATTACHMENT 'A'SERVICES DEVELOPED BY THE CO-OPERATIVEPrimary service

A centralised newsmedia clipping (and transcript) library which of necessity must be superior in every respect to anything currently operated by any newspaper or library. This can be achieved and on this basis the service ought to be preferred by media operators to replace (progressively) their existing in-house systems.

The points of vital interest in the system.

1. This service will include ALL items published in member controlled newsmedia and can include any other material of interest.
2. A keyword index is created on computer and becomes the basic primary research tool. Researchers use the on-line computer terminal to find article headlines (keywords) likely to be of interest in answer to a particular question. A review of the keywords quickly determines which specific articles the researcher wants to see. These are then retrieved automatically.
3. Each article is clipped, filmed onto microfiche, the microfiche is duplicated and is then stored in the automatic retrieval reader printers awaiting the computer command to appear on the reader printer screen.
4. Touch-of-a-button production of selected clippings that can be taken away, used and then destroyed. These are never re-filed as the original microfiche remains in the machine for re-use.
5. Sufficient computer terminals and reader printers to ensure adequate direct access by trained staff and limited access to untrained personnel. (An untrained clerk can conduct a search of the key-word computer file by following simple instructions and also retrieve copies via the reader printer).
6. Retrieval stations consisting of a computer terminal and reader printers can be located on the editorial floor as well as in the research library, giving multiple location of the total library resource of information.
7. The facility to file within the computer and/or the microfiche material for one user only. Many newspapers have data which they would not wish to share with competitors. This material can be included in the system with absolute security to the owner.
8. Back files can be added to the system progressively - as far back as economics allow. It is a matter of selection of material, extent of keywording and capacity of equipment.

ATTACHMENT 'A'Secondary services

1. Supply of off-line and on-line services to libraries commerce, industry and government. Replacement of such services as the commercial clipping services. This would be achieved through a commercial research retrieval station located in each major city.
2. Publication of selected subject keyword indices. Such a publication reproduces the keyword file on a particular subject. A very popular one from the USA recently was the Watergate index of the Washington Post. These publications, easy to produce, sell to libraries and to organizations in the community interested in a particular subject for research or education.

ATTACHMENT 'B'BENEFITS OF THE AUTOMATED PERMANENT FILE SYSTEM

1. Paper files, usually in manila folders are subject to loss, miss-file, wear and even vandalism (being written on by successive users). There is usually only ONE copy of a particular file and therefore available to only one researcher at any given time.

With a microfiche, there can be as many copies as required at very low cost. If a fiche is lost, it can be replaced from any other duplicate or from the original. When the fiche is filed in the automatic retrieval system it never needs re-filing after use.

2. The automated system allows a researcher to scan thousands of clippings in seconds, narrowing the field looking for one or several specific articles. When searching paper files manually, the researcher must flick through actual clippings - a time consuming and tedious job.
3. Clippings in the paper files can only be taken away from the library under the real risk of permanent loss. Therefore most research of clipping files is confined to the library - or at least to the editorial area. With the new system - desired clippings selected from the file and reproduced automatically can be taken away, used and destroyed.
4. Entering cross reference records in the manual paper file library is a tedious and costly business. On the automated system - the cross reference is automatic once the item is key-word indexed.

ATTACHMENT 'C'BENEFITS OF NON-DUPLICATION OF EFFORT

Ten major users of clipping files in Australia, all doing the same job, each in his own way, each in his own location.

The ten:

Parliamentary Library (28 dailies and others)
John Fairfax and Sons (3 dailies and others)
Herald and Weekly Times (3 dailies and others)
Melbourne Age (3 dailies and others)
News Limited (3 dailies and others)
Australian Consolidated Press (3 dailies and others)
Adelaide Advertiser Group (3 dailies and others)
N.S.W. Parliamentary Library (not known)
Victorian Parliamentary Library (not known)
Queensland Newspapers Group (not contacted)

Over 100 people are employed creating these 10 libraries.

Twenty five people in the centralised service will do the job more completely, quicker and with more accuracy and consistency than any of the existing operations.

The resources released to each of the 10 for other uses includes people people and space. Add to this the benefits of an increase in the information available plus the improved efficiency of search and retrieval.

The cost of automating an individual newspaper or library file, including purchase of software and hardware is approximately \$400,000.

ATTACHMENT 'D'PRELIMINARY COST PROJECTIONS

Some volume estimates are needed before costs can be determined and the following figures are based on considerable experience and research at Parliamentary Library Canberra. The costs are estimates on known computer bureau costs.

Number of media to be input	22 dailies
	10 weeklies

Others, transcripts and part works - seek permission for two or three overseas newspapers.

Total clippings per week	8,000
month	30,000
year	360,000

Keywords - average 15 per item
- 8 characters per word

$360,000 \times 5 \times 8 = 43$ million characters.

Microfiche - 42x; 192 frames per fiche
780 fiche per machine or 149,760
11" x 14" frames
each 11" x 14" frame carries
two clippings - .99,520 clippings

Reader Printers will therefore carry about one year of clippings - put two machines per station for two years on automatic retrieval and one machine for total file manual retrieval.

Organised File - clippings will be graded onto the microfiche in two classes.

Class 1 - all clippings from media selected as "papers of record" - we suggest - *The Financial review*, *The age*, *The Sydney morning herald*, *The Australian*, (Melbourne) *Herald*, *Adelaide advertiser*, *West Australian*, *National times*.

Class 2 - all others including transcriptions, speeches, overseas and other data.

Preliminary Costs - EstimatesComputer Programming

It is suggested that they keyword/file/retrieval programme be written to our specifications by a contractor. This is preferable to buying any one of the existing "packages" which would require extensive modification to suit this network.

Estimated cost of programming is \$120,000.

ATTACHMENT 'D'File storage

A two year on-line keyword index file of 86 million characters would cost \$110,000 per annum, or \$50,000 for the first year building up to \$110,000 after two years of operation, as the data base is built up.

CPU/search time/cost

On-line charges of \$15 per hour of active use can be expected.

Line charges of \$300 per annum per line (APO) and \$3,000 per annum per terminal (VDU).

Staffing

It is anticipated that the entire system can be operated as follows:

Keyword Indexing (mark up) 32 hours per day
Eight staff, highly trained, also directing clippings and photo preparation.
8 x \$12,000 = \$96,000 per annum
Plus costs and \$9,600
loadings

\$105,600

Keyword Input

43 million characters per annum is
165,384 per day or 16 hours keyboard input
Six keyboard operators in two 6 hour shifts
6 x \$9,620 + 10 per cent
962

\$10,582 = \$63,492 per annum

CLIPPING AND PHOTO PREPARATION

Four staff clipping and sticking 8,000 items to pre-formatted photo boards each week.

22 dailies, plus weekend and weeklies make approximately 24 papers per day, or six papers for each of the four staff. These people are backed up by the keyword indexing staff.

4 x \$10,582 = \$42,328 per annum

(This appears to be very tight i.e. 8,000 items for 4 staff or 66 items per hour. Input is not likely to reach this maximum level).

ATTACHMENT 'D'Microfilming

Total of four personnel in this department, interchangeable between photography, processing and fiche duplicating and despatch.

Four staff as above cost \$43,000 per annum

Administration and support staff

Manager, cost	\$24,000 per annum
Bookkeeper	\$15,000 per annum
Two clerks	\$20,000 per annum

TOTAL \$59,000

Two clerks backing up on despatch, keywording, clipping or any other services required.

Office accommodation and expenses

Proposed location is Canberra where adequate facilities are available at \$8.00 per foot per annum.

2,500 sq. ft. (50 x 50) at 8 = \$20,000

Other administration costs, materials, phone, insurance et. al. = \$25,000

Equipment Cost

Capital equipment including	
6 automated Reader printers	\$80,000 (\$14,000)
2 Step and Repeat cameras and processors	\$23,000
	\$103,000
	\$25,000 p.a. over 5yrs.
6 VDU's at \$3,000 per annum	18,000 leased p.a.
6 lines at \$300	1,800 leased APO
	\$44,800 per annum

ATTACHMENT 'D'COST SUMMARY

	\$
Staff 26	313,420
Office accommodation	45,000
Equipment lease etc.	44,800
Computer - file storage	110,000
- programme	25,000
- CPU usage	70,000
	\$608,220

Note:

Additional expenses are incurred to supply each potential on-line user of the service with VDU's lines, automatic retrieval reader printers etc.

Each major "work station" consisting of the following will cost:

1 VDU	3,000 lease and \$300 line
2 Automatic reader printers	26,000)
1 Manual reader printer	7,500 ;
1 Cartridge rack	800)

Each on-line user will require at least one such "work station" and several VDU's.

DEVELOPMENT OF RESOURCE SHARING NETWORKS

Reports published in this series are

Interim report and surveys. 1975. 686p. \$8.50

Networks study No.1 - Life sciences information network. 1976. 57p. \$2.50

Networks study No.2 - BIBDATA network: A draft proposal for an Australian national shared cataloguing system. 1976. 158p. \$3.50

Networks study No.3 - Functional specification for a proposed industry information network. 1976. 39p. Out of print

Networks study No.4 - Computer based information services available to the public in Australia. 2nd edition 1977. 64p. \$2.50

Networks study No.5 - Standards for Australian computer based services; A discussion paper. 1977. 19p. \$2.50

Networks study No.6 - Towards an Australian industry information network. 1977. 22p. \$2.50

Networks study No.7 - Directory of technical information sources for industry. 1978. 168p. \$4.50

Networks study No.8 - Progress in UNISIST activity: The first 3 years of the UNISIST Programme in Australia, 1974-77. 1978. 40p. \$2.50

Networks study No.9 - Papers/Library Services for the Handicapped: A National Consultative Seminar, Canberra, 1-3 August, 1978. 1979. 165p. \$5.75

Networks study No.10 - Report of the Working Party on Library Services for the Handicapped. 1979. 80p. \$6.50

Networks study No.11 - International Conference of Directors of National Libraries on Resource Sharing in Asia and Oceania. 1979. 208p. \$5.75

Networks study No.12 - Twelve Essays in Subject Bibliography. 1980. 128p. \$5.75

Networks study No.13 - Australian Newspaper Index Feasibility Study. 1980. 56p. \$3.25

Networks study No.14 - The Pacific Community Concept: a select bibliography. 1980. 47p. \$3.25

Copies of these reports are available, at the prices shown, from:

Sales & Subscriptions Unit
National Library of Australia
CANBERRA ACT 2600